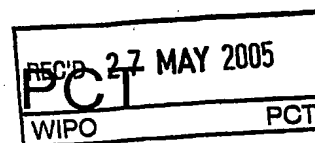


PATENT COOPERATION TREATY

03 Aug

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/014755

International filing date (day/month/year)
23.12.2004

Priority date (day/month/year)
28.01.2004

International Patent Classification (IPC) or both national classification and IPC
C08J9/16, C08J9/28

Applicant
UNILEVER PLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Meier, S

Telephone No. +49 89 2399-8312



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/014755

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/014755

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 19

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 19
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/014755

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	8-18
	No: Claims	1-9, 20, 21
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-18, 20, 21
Industrial applicability (IA)	Yes: Claims	1-18, 20, 21
	No: Claims	-

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Reference is made to the following documents:

- D1:** WO 99/00187 A (BIOPORE CORPORATION)
- D2:** US-A-4 522 953 (BARBY ET AL)
- D3:** US-A-4 611 014 (JOMES ET AL)
- D4:** WHANG K ET AL: "A novel method to fabricate bioabsorbable scaffolds"
February 1995 (1995-02), POLYMER, ELSEVIER SCIENCE PUBLISHERS B.V,
GB, PAGE(S) 837-842 , XP004025968 ISSN: 0032-3861
- D5:** US-A-5 723 508 (HEALY ET AL)
- D6:** WO 2004/011537 A (UNILEVER N.V; UNILEVER PLC; HINDUSTAN LEVER
LIMITED; COOPER, ANDREW, I)
- D7:** WO 2005/014704 A (THE UNIVERSITY OF LIVERPOOL; COOPER,
ANDREW; BUTLER, RACHEL)

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

- 1.1 concerning dependent claim 19 of the present application: cf. reasoning on form PCT/ISA/210 of the *International Search Report*.

Re Item VIII

Certain observations on the international application

2. Clarity - Art. 6 PCT

- 2.1 Expressions like "about" or similar terms like "at ambient temperature", "a period effective" or "a temperature effective" as used in claims 1, 8 and 13 of the present application are contrary to the requirements of PCT-Guidelines 5.38.
- 2.2 Some embodiments of the invention shown in the examples, e.g. Examples 7-11, do not fall within the scope of the claims since they are silent concerning the intrusion volume in contrast to the requirement set out in independent claim 1 of the present application. This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear, Art. 6 PCT.

- 2.3 Example 4 describes on page 11, lines 1-5 of the present application the formation of an aqueous solution of PS. At present it is not clear how PS can be dissolved in water. In addition, it is not disclosed in a manner sufficiently clear and complete how this aqueous PS solution could be prepared so that it can be carried out by a person skilled in the art. Therefore, it does not fulfill the requirements of Art. 5 PCT.
- 2.4 The ranges claimed for the content of the polymeric material and the surfactant in independent claims 1 and 8 of the present application are not consistent with the ranges shown in the description on page 1, lines 14-20 and page 5, lines 24-31 of the present application.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

3. Novelty

- 3.1 The independent claim 1 of the present application claims
- a) Porous bodies which are soluble or dispersible in non-aqueous media comprising
 - b) a three dimensional open-cell lattice containing 10-70 % by weight of a polymeric material which is soluble in water immiscible non-aqueous media and
 - c) 30-90 % by weight of a surfactant,
 - d) said porous bodies having an intrusion volume as measured by mercury porosimetry of at least $3 \text{ ml} \cdot \text{g}^{-1}$.
- 3.2 Document **D1** discloses a) a hydrophilic porous polymeric material comprising a b) a three dimensional open-cell lattice containing a water soluble polymeric material (which is certainly dispersible in organic solvents) e.g. acrylic acid, acrylamide and c) a surfactant. The amounts are within the range of the present application. d) The porous polymer particles show a bulk density within the range of from $0.001\text{-}1.0 \text{ g} \cdot \text{ml}^{-1}$ and a void volume up to about 99 % as also shown in the examples of the present application. e) The use of polystyrene which has been crosslinked with DVB has also been disclosed f) A process comprising a freeze drying step is not disclosed (page 9, lines 30-33; page 11, lines 30-33; page 25, lines 19-28; Examples; claims 1, 6, 18, 22, 23).
- 3.3 Therefore, claims 1-7, 20 and 21 of the present application do not fulfill the requirements of Art. 33(1) PCT since they are not novel over the prior art document **D1** in the sense

of Art. 33(2) PCT.

- 3.4** Document **D2** discloses **a)** a crosslinked homogenous porous polymeric material comprising **b)** polymers based on monomers like styrene and DVB **c)** a surfactant like span 80 as used in the present application. The amounts are within the range of the present application. **d)** The porous material shows a pore volume of more than $9 \text{ ml} \cdot \text{g}^{-1}$. **e)** The material is suited to incorporate liquids like bleaches, etc. **f)** A process comprising a freeze drying step is not disclosed (abstract; column 2, lines 31-59; column 3, line 16-column 6, line 60; claims 1, 3, 6, 8; Examples).
- 3.5** Therefore, claims 1-7, 20 and 21 of the present application do not fulfill the requirements of Art. 33(1) PCT since they are not novel over the prior art document **D2** in the sense of Art. 33(2) PCT.
- 3.6** Document **D3** discloses **a)** highly porous crosslinked functionalised polymers comprising **b)** polymers based on monomers like styrene and/or methacrylate containing various ionic or polar functional groups **c)** a surfactant like span 80 as used in the present application. The amounts are within the range of the present application. **d)** The porous material shows a pore volume of greater than $5.6 \text{ ml} \cdot \text{g}^{-1}$. **e)** The material is suited to incorporate liquids. **f)** A process comprising a freeze drying step is not disclosed (abstract; column 1, lines 25-33; column 2, lines 67 and 68; column 3, line 40-column 4, line 35; claims 1, 6).
- 3.7** Therefore, claims 1-7, 20 and 21 of the present application do not fulfill the requirements of Art. 33(1) PCT since they are not novel over the prior art document **D3** in the sense of Art. 33(2) PCT.
- 3.8** It is pointed out that documents **D6** and **D7** which have been cited in the ISR as a "*P*" and "*E*" document, respectively, might be relevant to the question of novelty in case that the application enters a regional and/or national phase.

4. Inventive Step

- 4.1** The working-up of HIPE by freeze drying to porous polymer materials is generally known in the art and can be found in documents **D4** and **D5** for example.
- 4.2** Therefore, claims 8-18 do not fulfill the requirements of Art. 33(1) PCT since they do not involve an inventive step in the sense of Art. 33(3) PCT.

5. Industrial Applicability

5.1 The subject matter of claims 1-18, 20 and 21 is industrial applicable.